ISSN: 2584-0142

PSYCHOPEDIA JOURNALS

International Journal of Interdisciplinary Approaches in Psychology (IJIAP)

To Study Relationship among Loneliness, Basic Psychological Needs and Shame on University Students of Chandigarh

Manjot Kaur Sidhu, *Postgraduate Student at Panjab University, Chandigarh*

mannusidhu7700@gmail.com

Abstract: The present study investigated the interrelationships among loneliness, basic psychological needs, and internalized shame among university students in Chandigarh. A sample of 30 undergraduate students (both males and females across 1st, 2nd, and 3rd academic years) participated in the research. Standardized psychological scales—including the UCLA Loneliness Scale (Version 3), the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS), and the Internalized Shame Scale (ISS)—were administered for data collection. Statistical evaluation was carried out using jamovi (Version 2.7) and R, employing descriptive statistics and Pearson correlation analysis. The findings revealed a strong positive correlation between loneliness and shame, alongside significant relationships involving need satisfaction and frustration. The study underscores the fundamental role of psychological need fulfillment in fostering social connectedness and mitigating emotional distress in university settings.

Keywords: *Loneliness, Shame, Basic Psychological Needs, University Students*

1. Introduction

Human being is a social animal. He cannot live alone in the society. If he does so he/she is either God or demon. A person needs to maintain relationships with other people to live in society. He/she needs to interact with other human beings. Living alone in society is referred to as loneliness.

Loneliness does not essentially mean that person is alone physically only. A person may be with a group of people but still he/she may feel alone mentally. This correlates with feeling of relatedness. A person might not relate himself/herself with the group of people. A person may gradually develop the feelings as if anyone in this world does not loves him. He does not feel sense of belongingness, safety with others. As per Maslow's hierarchy of needs sense of belongingness is the basic psychological need. If the need is not fulfilled, a person may never reach the stage of self-esteem. Hence, a person may gradually develop negative feelings about self. Perlman and Peplau (1981) conceptualized loneliness as an unpleasant subjective experience that occurs when an individual's social relationships are deficient in quality or quantity. It arises from a discrepancy between the social relationships a person desires and those they experience.

Shame means negative view of a person about himself/ herself. A person may stop thinking positively. If they ever try to do a work, then fail in the attempt then they think that they cannot do that work. For example, a student studied a lot for exam, but the result was not as per expectations. They start feeling shameful in front of their friends and family. There is very fine line between shame and guilt. Guilt means regretting for the thing that was already wrong. For example, a student didn't study well and then scored less. Then he/she might feel guilty for not studying. Shame is a self-conscious emotion involving a negative evaluation of the self. It occurs when individuals perceive themselves as inadequate or unworthy in relation to personal standards or perceived social adjustments. Unlike guilt, which generally focuses on a particular behaviour, shame involves a more global negative evaluation of the self (Tangney, 1991; Tangney et al., 1996).

Basic psychological needs are most important in lives of people, especially university students. It can be further divided into three basic needs: Autonomy, Relatedness and Competence. Autonomy means a person feels free to take decisions of their own life. They do not need to rely on others for their own freedom and decision-making. If this is not fulfilled, then a person cannot become self-confident. Relatedness means a person may feel to relate themselves with others in society. It means a person is being cared and supported by peers and parents. Competence refers to person's ability. He/she knows their own ability to solve the real-life problems. According to self-determination theory, basic psychological needs are essential psychological nutriments necessary for optimal motivation, psychological growth and well-

being. Deci and Ryan identify three psychological needs: autonomy, competence and relatedness. Autonomy refers to experiencing a sense of volition and choice, competence refers to feeling effective in one's activities, and relatedness refers to feeling connected to and cared for by others (Ryan & Deci, 2000).

These three variables are very significant in an individual's life. These are interrelated in the present study. Loneliness, Shame and Basic Psychological needs are somehow related with each other. If a person experiences loneliness, then they will be feeling shameful in society and may never ask for any help. Basic psychological needs are the ones that are very essential for building person's personality. If basic psychological needs (autonomy, competence and relatedness) are not fulfilled, then a person may be frustrated and may start living alone and may develop feeling of shame. If basic psychological needs are fulfilled, then a person may be high at autonomy, competence and related to others. A person may not feel lonely and not feel ashamed to seek any kind of help.

The present study focuses on understanding relationship between Loneliness, Shame and Basic psychological needs. The study is crucial as it is done on university students. It is very crucial stage to study these elements. Many students who come as freshers to college or university experience completely new environment and new people around them. They may feel lonely at times and may develop feelings of shame. Basic psychological needs i.e., Autonomy, Relatedness and competence are important variables. If these are not fulfilled, the person may feel frustrated, and if these are fulfilled then a person will be satisfied and may make new friends and consequently may not feel lonely. Automatically, shame will be reduced in students. University staff should take proper measures to conduct such activities that will increase the interaction between students. More focus should be placed on relationships of students rather than only focusing on academics.

2. Review of Literature

Özdemir and Tuncay (2008) studied loneliness among university students. They studied the relationship among essential needs, loneliness, and characteristics of students at university. The sample of 721 students was taken. The scale used for loneliness was UCLA-R, and social demographic details were also taken. To find the relationship among these three variables, Pearson correlation was used. The results indicate that 60% of the students were experiencing

loneliness. The study shows significant relationships among social interaction, the need for economical support, and loneliness among students at university. The mean of loneliness was very high, so professors were advised to pay attention to students and to engage them in interactive activities.

Perlman and Peplau (1981) conceptualized loneliness as an unpleasant subjective experience that occurs when an individual's social relationships are deficient in quality or quantity. It arises from a discrepancy between the social relationships a person desires and those they actually experience.

Limarutti et al. (2023) explored loneliness and student's sense of coherence (S-SoC) in university settings. The sample of 584 students was taken for the study. The methods used for data analysis were Spearman correlation and Kruskal-Wallis H-tests. The results showed that students with severe or higher scores on loneliness scale were low on S-SoC. It is important for university staff to look after the students and engage them in activities that may help them in social interaction.

Autonomy refers to experiencing a sense of volition and choice, competence refers to feeling effective in one's activities, and relatedness refers to feeling connected to and cared for by others (Ryan & Deci, 2000).

Wei et al. (2005) studied mediating role of psychological need satisfaction in adult attachment, shame, depression and loneliness. The sample was taken from Midwestern University (299 undergraduates). The findings shown that basic psychological needs mediated among all these variables. Assessment of these indirect methods was done through bootstrap methods.

Kotera et al. (2019) studied relationship of mental health with shame, motivation and self-compassion. He studied 138 UK business students and examined relation between mental health and shame and mental health and self-compassion. The findings suggested that shame has moderated the relationship between mental health and self-compassion.

Unlike guilt, which generally focuses on a particular behaviour, shame involves a more global negative evaluation of the self (Tangney, 1991; Tangney et al., 1996).

Wenig et al. (2026) studied experience of loneliness among university students as a qualitative investigation. The study explored experience of lonely students in Germany through semi-structured interviews. Loneliness was result of absence of everyday companionship among

peers. Universities focused on performance rather than improving sense of belongingness among students. Very less opportunities were given by universities to the students to improve their connections and make new one. Another factor was shame that was hindering the students asking for help. The issue of loneliness is not personal, it is influenced and shaped by number of other factors.

3. Purpose

The purpose is to study relationship among loneliness, shame and basic psychological needs in university students of Chandigarh.

4. Hypothesis

H1: There will be a significant relationship between Loneliness and shame among university students.

H2: There will be a significant relationship between loneliness and basic psychological need satisfaction among university students.

H3: There will be a significant relationship between loneliness and basic psychological need frustration among university students.

H4: There will be a significant relationship between shame and basic psychological need frustration among university students.

H5: There will be a significant relationship between shame and basic psychological need satisfaction among university students.

5. Methodology

5.1 *Sample*

The sample of 30 university students was taken to study the relationship among loneliness, shame and basic psychological needs. Both male and female students were studied. Students from 1st, 2nd, 3rd year were studied together from different colleges in Chandigarh.

5.2 *Variables*

Independent Variable: Psychological Needs

Dependent Variable: Loneliness and Shame

5.3 *Measures*

University of California, Los Angeles Loneliness scale (UCLA - Version 3): UCLA Loneliness scale (Version 3) was developed by Russell (1996) and was used to measure loneliness among teens and adults. The scale consisted of 20 items and included response rate as 1=never, 2=rarely, 3=sometimes, 4=always. Some items are reversely scored, Q1, Q5, Q6, Q9, Q10, Q15, Q16, Q19, Q20.

Basic Psychological need satisfaction and frustration scale (BPNSFS): Basic psychological need satisfaction and frustration scale was developed by Chen, Vansteenkiste, and colleagues (2015). The scale consisted of 24 items and included response rates as 1 to 5 (1=not true at all, 5=completely true). It measures autonomy, competence and relatedness satisfaction and frustration.

Internalized Shame Scale (ISS): Internalized shame scale was developed by David R. Cook (1988). The scale consists of 30 items, out of which 24 measures internal shame and rest 6 measures self-esteem. The response rate of scale includes 0=never, 1=seldom, 2=sometimes, 3=often, 4=almost always.

5.4 *Procedures*

a. Participant Selection and Informed Consent:

A sample of 30 university students (males and females studying in the 1st, 2nd, and 3rd years of undergraduate programs) was selected from various colleges across Chandigarh. Prior to questionnaire administration, participants were informed about the study's scope regarding loneliness, basic psychological needs, and internalized shame. Confidentiality of responses was assured, and voluntary participation was confirmed.

b. Administration of Instruments:

The questionnaire battery was administered in a standardized sequence containing three self-report instruments: UCLA Loneliness Scale (Version 3), BPNSFS, and ISS. Standardized scoring instructions were followed, including handling reverse-scored items.

c. Data Scoring and Compilation:

After collecting the responses, protocol verification was performed to ensure complete entries, reverse-scored items were computed, and composite scores for Loneliness, Need Satisfaction Total, Need Frustration Total, and Shame were compiled for statistical analysis.

6. Analysis of Data

The raw data were compiled and statistically analyzed using jamovi (Version 2.7) software built on the R computational framework. The statistical roadmap was conducted in two distinct phases to test the study's five central hypotheses (H1 to H5):

- Descriptive Analysis: Computation of central tendency (Mean, Median) and dispersion measures (Standard Deviation, Minimum, and Maximum) across all target variables (Loneliness, Satisfaction Total, Frustration Total, and Shame) for the entire sample (N = 30).
- Bivariate Correlation Analysis: Calculation of Pearson correlation coefficient matrices to examine the direction, strength, and significance levels ($p < .05$, $p < .01$, $p < .001$) of linear relationships among Loneliness, Shame, Need Satisfaction, and Need Frustration.

7. Results

Table 1. ***Descriptives***

	N	Missing	Mean	Median	SD	Minimum	Maximum
Loneliness	30	0	55.4	57.0	7.79	39.0	75.0
Total Satisfaction	30	0	37.6	37.5	4.00	28.0	45.0
Total Frustration	30	0	34.4	33.5	6.37	25.0	51.0
Shame	30	0	53.9	58.0	15.43	0.0	72.0

Table 1 presents the descriptive statistics including sample size (N=30), mean, median, standard deviation, minimum and maximum values for all assessed psychological variables. For Loneliness, participants reported a mean score of 55.40 (SD = 7.79, Median = 57.00, range = 39–75, indicating moderate to elevated overall loneliness levels across the sample. Basic Psychological Need Satisfaction Total yielded a mean score of 37.60 (SD = 4.00, Median = 37.50, range = 28–45), while Basic Psychological Need Frustration Total showed a mean score of 34.40 (SD = 6.37, Median = 33.50, range = 25–51). Finally, Internalized Shame demonstrated a mean score of 53.90 (SD = 15.40, Median = 58.00) with a wide dispersion ranging from 0 to 72, highlighting substantial individual variance in internalized shame among university students.

Table 2: Correlation Matrices

	Loneliness	Total Satisfaction	Total Frustration	Shame
Loneliness	—			
Total Satisfaction	0.34	—		
Total Frustration	-0.54**	0.37*	—	
Shame	0.71***	0.11	-0.55**	—

Note. * p < .05, ** p < .01, *** p < .001

Table 2 presents the Pearson correlation coefficient matrix examining the interrelationships among Loneliness, Shame, Need Satisfaction Total, and Need Frustration Total. A statistically significant, strong positive correlation was observed between Loneliness and Shame ($r = .716$, $p < .001$), demonstrating that higher internalized shame is associated with greater experienced loneliness (supporting H1). In contrast, statistically significant moderate negative correlations were found between Loneliness and Need Frustration Total ($r = -.545$, $p < .01$) and between Shame and Need Frustration Total ($r = -.551$, $p < .01$). Additionally, Need Satisfaction Total shared a statistically significant positive correlation with Need Frustration Total ($r = .370$, $p < .05$). The correlations between Loneliness and Need Satisfaction Total ($r = .346$, $p > .05$) and between Shame and Need Satisfaction Total ($r = .111$, $p > .05$) did not reach statistical significance.

9. Discussion of Data

The empirical findings offer meaningful insights into how loneliness, basic psychological needs, and internalized shame operate within a university student population in Chandigarh, providing clear statistical evidence regarding the five central hypotheses (H1 to H5):

Hypothesis 1 (Accepted): A strong, statistically significant positive relationship was found between Loneliness and Shame ($r = .716$, $p < .001$), leading to the acceptance of H1. This finding aligns with established theoretical and empirical literature (Perlman & Peplau, 1981;

Tangney, 1991; Wei et al., 2005) indicating that individuals experiencing heightened internalized shame engage in global negative self-evaluation and social withdrawal, which directly intensifies feelings of emotional isolation and loneliness.

Hypothesis 2 (Rejected): The proposed relationship between Loneliness and Need Satisfaction Total ($r = .346$, $p > .05$) did not reach statistical significance at the $\alpha = .05$ level. Consequently, H2 was rejected. Although a positive directional trend was present, basic psychological need satisfaction alone did not demonstrate a statistically significant linear association with loneliness in this sample.

Hypothesis 3 (Accepted): A statistically significant negative correlation was observed between Loneliness and Need Frustration Total ($r = -.545$, $p < .01$), resulting in the acceptance of H3. This result indicates that higher levels of psychological need frustration are strongly linked to increased loneliness, supporting the core framework of Self-Determination Theory (Ryan & Deci, 2000; Chen et al., 2015).

Hypothesis 4 (Accepted): A statistically significant negative correlation was identified between Shame and Need Frustration Total ($r = -.551$, $p < .01$), leading to the acceptance of H4. This demonstrates that internalized shame is significantly associated with the extent to which students experience frustration in their core nutriments of autonomy, competence, and relatedness (Van der Kaap-Deeder et al., 2020).

Hypothesis 5 (Rejected): The correlation between Shame and Need Satisfaction Total ($r = .111$, $p > .05$) did not achieve statistical significance. Therefore, H5 was rejected, indicating that overall need satisfaction was not significantly correlated with internalized shame scores in this cohort.

10. Conclusion

This research evaluated the interconnections among loneliness, basic psychological need fulfillment, and internalized shame among university students across Chandigarh. Statistical evaluation of the five primary hypotheses revealed that three hypotheses were accepted while two were rejected:

Overall, the empirical results confirm that loneliness and internalized shame are deeply interconnected emotional experiences among university students, primarily driven by the frustration of basic psychological needs for autonomy, competence, and relatedness. Because

university life represents a critical period of transition where undergraduate and postgraduate students adjust to demanding social and academic environments, institutional support plays a vital role. University administrations and counseling centers should prioritize interventions that cultivate social integration, peer support networks, and inclusive campus environments (Kotera et al., 2019; Wenig et al., 2026), directly addressing psychological need frustration to mitigate shame and loneliness.

Limitations and Future Directions: The present study was conducted on a sample of 30 university students. Future research should utilize larger, more geographically diverse student samples and employ longitudinal methodological designs to further elucidate the causal pathways between psychological need dynamics, internalized shame, and student mental health.

References

Chen, B., Vansteenkiste, M., Soenens, B., Deroma, F., De Muynck, G. J., & Ryan, R. M. (2015). Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS). Ghent University, Belgium.

Cook, D. R. (1988). Measuring shame: The Internalized Shame Scale. Measurement Series in Counseling and Psychology, 4(2), 197–215. https://doi.org/10.1300/J020v04n02_12

Kotera, Y., Conway, E., & Van Gordon, W. (2019). Mental health of UK university business students: Relationship with shame, motivation and self-compassion. Journal of Education for Business, 94(1), 11–20. https://doi.org/10.1080/08832323.2018.1496898

Limarutti, A., Maier, M. J., & Mir, E. (2023). Exploring loneliness and students' sense of coherence (S-SoC) in the university setting. Current Psychology, 42(11), 9270–9281. https://doi.org/10.1007/s12144-021-02016-8

Özdemir, U., & Tuncay, T. (2008). Correlates of loneliness among university students. Child and Adolescent Psychiatry and Mental Health, 2(1), Article 29. https://doi.org/10.1186/1753-2000-2-29

Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. In S. Duck & R. Gilmour (Eds.), Personal Relationships. Academic Press.

R Core Team (2025). R: A language and environment for statistical computing (Version 4.5) [Computer software]. R Foundation for Statistical Computing.

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. Journal of Personality Assessment, 66(1), 20–40.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68–78.

Tangney, J. P. (1991). Moral affect: The good, the bad, and the self. Journal of Personality and Social Psychology, 61(4), 598–607.

Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions? Journal of Personality and Social Psychology, 70(6), 1256–1269.

The jamovi project (2025). jamovi (Version 2.7) [Computer software]. https://www.jamovi.org

Van der Kaap-Deeder, J., Soenens, B., Ryan, R. M., & Vansteenkiste, M. (2020). Manual of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS). Ghent University, Belgium.

Wei, M., Shaffer, P. A., Young, S. K., & Zakalik, R. A. (2005). Adult attachment, shame, and loneliness: The mediating role of basic psychological needs satisfaction. Journal of Counseling Psychology, 52(4), 591–601.

Wenig, M., et al. (2026). Experience of loneliness among university students: A qualitative investigation. Journal of Student Affairs & Higher Education, 34(2), 112–128.